

Serial No.: 09/540,591

Examiner: Alpus Hsu

**In the claims:**

1 (canceled)

2 (canceled)

3 (canceled)

4 (canceled)

5 (canceled)

6(original). A bus control module as a terminal stage in a multi-stage distribution system disposed in a signaling server operating as a Signal Transfer Point in a telecommunications network, comprising:

decoding circuitry to decode a framed control signal received from an upstream stage of said multi-stage distribution system;

a status generator receiving a plurality of status signals from at least one line interface card disposed on a bus segment and controlled by said bus control module, said status generator for encoding said status signals in a predetermined frame of a framed serial status bitstream based on control data obtained from said framed control signal; and

a Phase Lock Loop (PLL) module to lock on an incoming system clock signal received from said upstream stage of said multi-stage distribution system, said PLL module generating a copy of said system clock to be provided to said line interface card.

7(original). The bus control module as set forth in claim 6, further comprising means to collect a plurality of alarms relating to at least one hardware component disposed in said signaling server, and wherein said alarms are multiplexed into said framed serial status bitstream by said status generator.

8(original). The bus control module as set forth in claim 7, wherein said hardware component comprises a fan assembly.

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9(original). The bus control module as set forth in claim 7, wherein said hardware component comprises a power supply unit.

10(original). The bus control module as set forth in claim 7, wherein said hardware component comprises an Ethernet switch.

11(original). The bus control module as set forth in claim 6, further comprising a reference clock selector for selecting a reference clock signal provided by said line interface card, said reference clock signal comprising a derived clock signal generated from a telecommunications network signal received at said line interface card.

12(original). The bus control module as set forth in claim 11, wherein said derived clock signal has a frequency of 8 KHz.

13(original). The bus control module as set forth in claim 11, wherein said telecommunications network signal comprises a DS-0A signal.

14(original). The bus control module as set forth in claim 11, wherein said telecommunications network signal comprises a Synchronous Optical Network (SONET) signal.

15(original). The bus control module as set forth in claim 11, wherein said telecommunications network signal comprises a T1 signal.

16(original). The bus control module as set forth in claim 11, wherein said telecommunications network signal comprises an E1 signal.

17(original). The bus control module as set forth in claim 6, further comprising a local time base operating as a standby clock source when said incoming system clock signal received from said upstream stage of said multi-stage distribution system is defective.

18(original). The bus control module as set forth in claim 6, wherein said bus segment comprises a Compact Peripheral Component Interconnect (CPCI) bus segment.

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19(original). A bus control module disposed as a stage in a multi-stage distribution system, comprising:

means for decoding a framed control signal received from an upstream stage of said multi-stage distribution system; and

means for generating a framed serial status bitstream based on control data obtained from said framed control signal, said framed serial bitstream including status data from a plurality of line interface cards disposed on a bus segment and controlled by said bus control module, wherein said framed serial status bitstream is provided to said upstream stage in a predetermined frame order.

20(original). The bus control module disposed as a stage in a multi-stage distribution system as set forth in claim 19, further comprising means for distributing a copy of an incoming system clock signal received from said upstream stage to each of said line interface cards.

21(original). The bus control module disposed as a stage in a multi-stage distribution system as set forth in claim 19, further comprising means for selecting a reference clock from a plurality of reference clocks provided by said line interface cards.

22(original). A bus control module disposed as a stage in a multi-stage distribution system, comprising:

means for decoding a framed control signal received from an upstream stage of said multi-stage distribution system; and

means for distributing a copy of an incoming system clock signal received from said upstream stage to a plurality of line interface cards disposed on a bus segment and controlled by said bus control module.

23(original). The bus control module disposed as a stage in a multi-stage distribution system as set forth in claim 22, further comprising means for generating a framed serial status bitstream based on control data obtained from said framed control signal, said framed serial bitstream including status data from said line interface cards, wherein said framed serial status bitstream is provided to said upstream stage in a predetermined frame order.

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